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Cognitive Dissonance at Dartmouth College: Measuring Student's Openness to Politically Incongruent Ideas

Jase A. Davis
Jase.A.Davis.18@Dartmouth.edu

Kristen Hinckley
kristen.hinckley.17@dartmouth.edu

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JASE DAVIS '18, KRISTEN HINCKLEY '17

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Abstract

Do the psychological theories of cognitive dissonance and selective exposure have bearing on how students at Dartmouth engage with news? Are students less likely to consume politically charged materials that they disagree with? Results from a true randomized survey administered to all undergraduates at the College in the classes of 2017 and 2018 found that Democrats at Dartmouth are less likely to engage with news that contradicts their political beliefs at a statistically significant level. Republicans, however, were more likely to engage with politically disagreeable news, but not at a statistically significant level.

Introduction

The "echo chamber effect" refers to the process by which users of news outlets tend to be exposed only to a narrow selection of articles that best match their political ideologies. Pundits have suggested that some US citizens felt shocked after the 2016 election results because voters surrounded themselves through social media and news consumption with similar views and they would then expect that everyone shared those views. Research on the echo chamber, based in psychology's theories of cognitive dissonance and selective exposure, is timely given the sentiments felt after the election. This paper investigates selective exposure among Dartmouth students by testing the following question: Are Dartmouth students less likely to engage with politically charged materials that they disagree with than with those with which they do agree? This paper intends to add to the existing research by analyzing the existence of selective exposure on a college campus.

Theory

While the concept of an "echo chamber" is relatively new, the theories that underpin it have a rich history. Throughout the 1940s and 1950s, psychologists conducted numerous studies focused on propaganda consumption, noting that people generally avoided messages and rhetoric that they disagreed with. It was not until 1953 when Leon Festinger published his seminal work, *A Theory of Cognitive Dissonance*, that a comprehensive understanding of how individuals and groups process ideologically incongruent concepts came to the forefront. Festinger posited that people seek consistency between their thoughts and their actions, but that inconsistencies inevitably arise. As people do not have perfect control over the information they are exposed to, Festinger states "The existence of dissonance, being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance" (p. 3). To achieve such consonance, a person may change their actions to match their new understanding or they may change their understanding of the topic or the ways they consume contradictory information. This naturally leads into the psychological concept of selective exposure, first written about by Joseph Klapper in 1960. His study of mass media communications shifted the prevailing research focus in news studies from how media affects the consumer to the dynamic and complicated processes of how the consumer takes in media information. He found that news media is often used to affirm preexisting notions, while dissimilar information is ignored. The empirical research on the effects of selective exposure in following years had mixed results (Sears & Freedman, 1967). Sears and Freedman argue that experiments done at that time incorrectly attributed results to selective exposure when actually exposure was externally limited by the communities and environments participants lived in. They referred to this as *de facto* exposure.

While the literature was unable to find systematic evidence of selective exposure, the debate has continued into today with a newfound vigor. Along with the advent of the Internet came grand

ideas of the "sovereign consumer" who was ready and eager to access the multitudes of information and entertainment available through the web (Bryant & Davies, 2006). However as the Internet grows, new pressures are shifting information outlets towards ideological poles. Algorithms that collect data on prior website visits create "filter bubbles" that recommend ideologically homophilous posts and sites, therefore artificially creating selective exposure (Flaxman et. al, 2016). Social networks have created dense inner-group ties that propagate complimentary information and behaviors while limiting exposure to crosscutting or dissonant ideas (Boutyline & Willer, 2015). All of this has resulted in political mass media consumption over the Internet that conforms to pre-existing political lines (Stroud, 2007), limiting the diffusion of ideas and strengthening of partisan stances.

Research Design

With the reality of polarized media communications and consumption through selective exposure, this study hopes to quantify the openness of Dartmouth College students to both politically consonant and dissonant ideas according to their political beliefs.

To measure this, a survey, run through Qualtrics, was sent to every member of the 2017 and 2018 graduating classes at Dartmouth in February 2017. Respondents were randomly exposed to excerpts from a conservative leaning news article or a liberal leaning news article (**Appendix A**). The articles chosen reflected issues that had arisen in the 2016 President Campaign to ensure constant issue saliency constant across political ideologies. The articles did not include any defamatory remarks towards Republicans or Democrats, but rather expressed negative or positive opinions towards the two parties.

Respondents read the news source, title, and first paragraph of the article to test their initial reactions to the source and to keep the survey short. They were then asked questions about their desire to continue reading the article and their beliefs on the factuality of the article, both on a sliding scale. Asking respondents' their disposition to continue reading measured the willingness of participants to selectively expose themselves to the given political ideas. Inquiring about the respondents' perception of factuality quantified their inclination to dismiss dissonant information as untrue. Furthermore, the survey asked respondents a series of questions about news and social media, as well as demographic questions about their political beliefs, gender, age, and race/ethnicity.

To capture respondents' likelihood to form and participate in an echo chamber, a regression was run for the survey treatment and the likelihood of a respondent to continue reading the full article (Liberal Article = 0, Conservative Article = 1). This regression measures all respondents' reactions to both articles simultaneously. If the regression coefficients are positive, this shows that the respondents were either more willing to read both articles, or their willingness to read the article that agrees with their political beliefs outweighs that of the politically disagreeable article. Both explanations adequately indicate a non-existent echo chamber and a relative openness to dissonant political ideas. Negative coefficients indicate that the respondents were not willing either full article, or that they are significantly less likely to read one article over the other. Given the salience political issues on campus, the concept that respondents would not read either article is cast aside.

A similar regression was then run for the survey treatment and the respondents' perception of whether or not the article is based in fact. Again, this model measures the effect of both articles simultaneously. Positive regression coefficients indicate a strong belief in the consonant article's factuality or shows openness to contrarian ideas. Negative coefficients show that respondents do not believe their ideology is based in fact, or that they are inclined to dismiss politically challenging ideas as untrue. The explanation that a negative result indicates that respondents do not believe the article that aligns with their views is truthful is cast aside, as it does not fit within Festinger's theory of cognitive consonance.

A regression is also run for preferred news medium, self-reported exposure to biased news sources, and prior knowledge of the echo chamber with race/ethnicity, socioeconomic status, and gender. This measures if there are any explanations of *de facto* selectivity (Sears & Freedman, 1967) at Dartmouth not captured in the first two models.

Results

Results can be found in **Appendix B** and regressions capture respondents' reactions to both articles. **Table 1** shows that Republican respondents were more willing to continue reading the article, but at a statistically insignificant level. However respondents, who identified as Democrats, were less willing to continue reading

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the articles at a statistically significant level ($p < 0.001$). Results for all 2017s and 2018s shows students were less disposed to continue reading the articles at a statistically significant level ($p < 0.01$). The disproportionate number of respondents who identified as Democrat can explain this.

In terms of respondents' perception of the article's factuality (**Table 2**), Republicans at Dartmouth were slightly more likely to perceive the articles as based in fact, but at a statistically insignificant level. Democrats were less likely to believe the verity of the articles at a statistically significant level ($p < 0.001$). Again, the sample for all 2017s and 2018's was less likely to perceive the articles as based in fact to a statistically significant level ($p < 0.001$) due to the heavy weighting of respondents identifying as Democrat.

As the statistically insignificant results for Republicans were unexpected, it was possible there were differences in Republican's reactions depending on the strength of their political beliefs. Regressions for the likelihood to read full the full article presented and the perception of article factuality were run for the varying levels Republican ideologies. **Table 3** shows that respondents who indicated they were independent Republicans or Republicans had statistically insignificant results for their willingness to read the full articles, liberal and conservative. Strong Republicans were more likely to read the full articles presented at a statistically significant level ($p < 0.001$).

Table 4 shows that respondents identifying as Republican were more likely to perceive the articles as based in fact, but at a statistically insignificant level. Both independent Republicans and strong Republicans were more likely to believe the articles were truthful at a statistically significant level. It should be noted that the effect on the perception of the article's factuality of strong Republicans was around three and a half times greater than independent Republicans.

There were no statistically significant relationships between news medium, consumption of biased news sources, or prior knowledge of the echo chamber accounting for race/ethnicity, socioeconomic status, gender, or partisanship. This therefore rules out *de facto* selectivity.

Conclusion

This study shows that Democrat students were less likely to engage with and perceive politically dissonant media as factual. The results for Dartmouth Republicans as whole did not provide statistically significant results, but those identifying as strong Republicans were more likely to keep reading the articles provided. Both strong Republicans and independent Republicans were more likely to perceive the articles presented as factual.

There was a disproportionate number of respondents identifying as Democrats (n=284) compared to Republican students (n=85). A greater number of respondents identifying as Republican may have helped to reduce the confidence interval for the regressions and create clearer results. The uneven distribution does not affect individual regressions for Republican or Democrat, but does affect the results for all 2017s and 2018s. The distribution of the sample is similar to other studies measuring political sentiments on campus (Agadjanian, 2017).

It is difficult to measure if the contentious United States Presidential Election affected the results, such as the negative effect for Democrats. The election of President Trump was marked by considerable political fervor by his supporters and opponents, and may have increased respondents' inclination for selective exposure due to party polarization. Additionally, Republicans at Dartmouth may be less ideologically homogenous as they live through the effects of the Trump administration. Increased issue salience and greater exposure to the Republican platform may create greater political divergence within the group. Republican students might also face social pressures to conform to the status quo of the political distribution on campus and take in dissonant contradictory news in order to "fit in."

Further research could test the echo chamber in different ways. Any information indicating the news source could be removed to separate cognitive biases of political affiliation to capture respondents' propensity to form echo chambers without predispositions towards the sources. Other further research could focus on selective exposure, providing respondents with more options of articles to read and having them choose which they want to read.

Ultimately, this study shows that some students at Dartmouth are affected by cognitive dissonance and selective exposure when consuming news. Democrats at Dartmouth are likely to form echo chambers, while no significant claim can be made about Republicans. This undoubtedly is a simplification of complex dynamics but serves as an important start to further research. D

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CONTACT JASE DAVIS AT JASE.A.DAVIS.18@DARTMOUTH.EDU AND KRISTEN HINCKLEY AT KRISTEN.G.HINCKLEY.17@DARTMOUTH.EDU

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Appendix A: Articles Used

Conservative-
"Duncan: America's Reality Check". 2016. *The Dartmouth*. http://www.thedartmouth.com/article/2016/11/duncan-americas-reality-check.

Liberal-
Prescott, Samuel. 2016. "The Dartmouth Review » In Defense Of Milo Yiannopoulos". *Dartreview.com*. http://www.dartreview.com/in-defense-of-milo-yiannopoulos/.

Appendix B: Tables of Results

Tables 1-4 are shown on p. 31 (right).

Table 1: Likelihood to Read Full Article

	All	Republican	Democrat
Treatment	-0.930**	0.902	-1.932***
	(0.33)	(0.61)	(0.41)
Constant	5.669***	5.098***	5.967***
	(0.23)	(0.44)	(0.29)
R-sqr	0.027	0.026	0.112
Number of Observations	284	85	176

Note: This model captures respondent's perception of whether or not the article provided was based in fact as the dependent variable. The results are measured by the total sample of Dartmouth respondents, Republicans, and Democrats. T-statistics are within the parentheses under the regression coefficient.
* p<0.05, ** p<0.01, *** p<0.001

Table 2: Perception of Factuality

	All	Republican	Democrat
Treatment	-1.901***	0.565	-3.215***
	(0.26)	(0.50)	(0.28)
Constant	5.514***	4.707***	5.956***
	(0.18)	(0.36)	(0.20)
R-sqr	0.158	0.015	0.428
Number of Observations	284	85	176

Note: This model captures respondent's perception of whether or not the article provided was based in fact as the dependent variable. The results are measured by the total sample of Dartmouth respondents, Republicans, and Democrats. T-statistics are within the parentheses under the regression coefficient.
* p<0.05, ** p<0.01, *** p<0.001

Table 3: Likelihood to Read, Breakdown of Republicans

	Ind. Rep.	Rep.	Strong Rep.
Treatment	1.578	1.578	7.133**
	(1.46)	(1.46)	(1.25)
Constant	4.200***	4.200***	2.667*
	(1.00)	(1.00)	(0.99)
R-sqr	0.064	0.064	0.845
Number of Observations	19	19	8

Note: This model captures respondent's perception of whether or not the article provided was based in fact as the dependent variable. The results are measured by the total sample of Dartmouth respondents, Republicans, and Democrats. T-statistics are within the parentheses under the regression coefficient.
* p<0.05, ** p<0.01, *** p<0.001

Table 4: Perception of Factuality, Breakdown of Republicans

	Ind. Rep.	Rep.	Strong Rep.
Treatment	1.429*	0.867	4.933*
	(0.57)	(0.86)	(1.88)
Constant	4.000***	4.800***	3.667*
	(0.44)	(0.59)	(1.49)
R-sqr	0.155	0.056	0.534
Number of Observations	36	19	8

Note: This model captures respondent's perception of whether or not the article provided was based in fact as the dependent variable. The results are measured by the total sample of Dartmouth respondents, Republicans, and Democrats. T-statistics are within the parentheses under the regression coefficient.
* p<0.05, ** p<0.01, *** p<0.001